

**RP: Can you say something briefly about Cyagen Biosciences and your role in the company?**

**AJ:** Founded in 2005, Cyagen Biosciences Inc. is a 200-employee contract research organization and cell culture product manufacturer with offices in Silicon Valley, California and China, and production facilities in China.

As a leader in custom animal models and molecular biology tools, Cyagen prides itself on the mission of bringing outstanding-quality research reagents, tools, and services to the worldwide biological research community at highly competitive prices.

My role at the company as Product Manager ranges from marketing materials development, product/service seminars and presentations, technical support and scientific support on our animal model projects as well as our vector construction projects, and also general customer service to ensure our customers receive the best support while simultaneously delivering the highest quality products and services.

**RP: In which country/state is Cyagen registered and who owns the company?**

**AJ:** Cyagen is a privately held company with a US office and base of operations in Santa Clara, CA as well as an Asia Pacific office and base of operations in China, with production facilities in China as well.

**RP: On 11th August I received [an unsolicited email message](#) that appeared to come from a direct marketing company called [Vertical Response](#) saying that Cyagen was offering to pay me to cite its "animal model services" in my scientific publications. If I did, I was told, I would get a payment based on the Impact Factor of the journal in question. In the case of a journal like Science, I was told, this would be \$3,000. Can you point me to a web page containing the full details of the offer?**

**AJ:** The Citation Reward Program does not offer payment for citations, but rather a store credit voucher good for future purchases of products and/or animal model services from Cyagen for researchers citing us in their publications.

We are not asking researchers to do something that they will otherwise not do. In fact, when a researcher publishes a paper, they are ethically required to disclose in their publication the outside reagents and services they received that contributed to their research findings, including those purchased from commercial entities. Our voucher is just a way of thanking them for using our products and services that ultimately led to their published scientific findings.

It appears that our email has caused misunderstanding as to the nature of, and how we wish the researchers to respond to, the voucher. As such, we extend our full apologies to you and other researchers for the misunderstanding caused by insufficient clarity in our email. Full details on the promotion can be found [here](#).

**RP: Is there a marked difference between offering to pay an individual for citing Cyagen and offering them a store credit for citing the company?**

**AJ:** We believe so for two reasons. The first being that citing us in their publication is a standard ethical requirement for any researcher should they have chosen to utilize our products or services in their study initially and so they are being rewarded by means of a discount on future purchases rather than a personal incentive. Expanding on this, the second reason is that we offer an incentive that allows for future research/studies to be performed rather than a personal incentive; this way it is the research institution and their studies which are benefitted.

**RP: How many scientists have shown interest in/taken up Cyagen's offer so far, and what are your expectations here (presumably you have set aside a sum of money to cover the payments)?**

**AJ:** Since the promotion's launch in July, we have had only a few researchers contact us regarding the program. Again, no money is set aside as researchers are not being given financial compensation but rather store credit for future purchases.

Given that researchers who utilize our services are required to disclose the source(s) of all reagents and services used in their research when publishing a journal article, we would hope that our existing customers would take advantage of the promotion and become return customers, while new customers may be more likely to choose us over a competitor for being rewarded for something they already must do as part of the publication process.

**RP:** *I am actually a journalist/blogger rather than a scientist and so have never written a peer-reviewed paper. Why did I receive this invitation?*

**AJ:** Our marketing and business development teams do their best to find researchers or associated individuals (i.e. Lab managers, purchasing personnel, etc.) who are actively seeking and/or purchasing reagents and laboratory services for their research.

Due to the nature of your blog (which covers peer reviewed publications and open source journals) our staff assumed that you were involved in active publications or research leading to peer-reviewed publications.

**RP:** *What are "animal models" by the way? Is it that Cyagen breeds rats and mice and sells them to labs for experimentation, or am I misunderstanding?*

**AJ:** Animal models are just this: model organisms for the study of diseases and underlying biological mechanisms for the development of novel therapeutics for both humans and animals (domestic, livestock, etc.). The animal models we produce are custom engineered for the researcher based on their study.

For example, a researcher may be studying the effects of a drug on weight loss during a high fat diet and may think that Gene X may cause some sort of increased/decreased response to the drug. The researcher would then look for a mouse/rat model where Gene X is missing or overexpressed, and after contacting us, we would engineer a genetically modified mouse/rat lacking Gene X or over expressing Gene X for their studies.

**RP:** *So my understand was right: When you say "The animal models we produce are custom engineered for the researcher" you are you talking euphemistically. An animal model is a live rat or mouse, and when you say you "engineer" animal models you are referring to a process that a layperson would call "breeding" an animal?*

**AJ:** Yes and no. "Model" is not a euphemism but a standard term in the field, which refers to modelling a disease state or condition. Breeding the animals is a step of the process, however to initially develop the animal models a variety of genetic engineering techniques are used including constructing synthetic DNA fragments and subsequently injecting these into an early embryonic stage of development so that they integrate with the animals' DNA, subsequently creating an animal with foreign DNA or with portions of its DNA altered. Also, the embryos and animals which are originally used are inbred laboratory strains such as ones you would find at a variety of animal providers or university core facilities. If you would like more information on these animal models, there are a variety of good articles on Wikipedia among others on transgenic and CRISPR mice.

**RP:** *What is your understanding of the Impact Factor, how it is calculated, and what it measures?*

**AJ:** Generally speaking, an impact factor (IF) is a metric used to gauge the amount of times articles in a given scientific journal are cited, thereby serving as a proxy for the journal's importance within its field of study.

This can be calculated in two ways. The first is the number of citations in a given year to articles published in the previous two years (A) divided by the total number of articles published in the prior two years (B).  $A/B = IF$ .

The second is similar, but removes the number of self-citations (C) from (A) prior to division by (B).  $(A-C)/B = IF$ .

For example, if in 2012 *Nature* was cited 250 times for articles published in 2010-2011, and it has cited itself 75 times, and a total of 100 articles were published in 2010-2011, then its corrected IF would be  $(250-75)/100 = 1.75$ .

**RP:** *To clarify: Cyagen is asking researchers to cite its products, not papers written by its employees? If that is right, then presumably this is not about traditional citation boosting, but paying scientists for what amounts to "product placement"?*

**AJ:** The goal is not product placement but rather: (1) increase the number of publications featuring Cyagen as a product or service provider to add strength to our company's reputation and visible experience; (2) reward researchers for performing a task that is already required of them as an extra way of saying thanks for choosing us as a service provider to begin with.

Researchers already must (ethically) disclose in their publications any references cited, any sources of reagents and services, and any collaborations. Should a researcher purchase cell media from Company X, and mouse breeding services from Company Y, while collaborating with Professor Z, they would have to disclose this in their publication so that all entities receive credit for their contribution to the study.

Additionally, most studies are not "endpoint" studies so to speak, with many having follow up studies to determine further details.

As a result, it is beneficial to a researcher and their laboratory budget if they receive a store credit for their next purchase as a reward for their initial purchase and subsequent published paper as this decreases the cost of their next study. This is similar to receiving coupons after a purchase at a retail store good for use on the next visit.

**RP:** *Do you feel that there are any ethical issues involved in offering to pay researchers to cite products in their papers?*

**AJ:** Again, we are not offering to pay researchers to cite our products or services, but rather we are offering them an incentive to become a repeat customer. Rather than offering a discount on a current order (which we have done as part of other promotions) we are offering a discount by means of a store credit on future purchases.

Because of this, we do not feel that any more ethical considerations are raised than if we were to offer discounted services from the beginning to gain customers' interest in choosing us over a competitor.

**RP:** *When I contacted you about the message I was sent you replied that Cyagen was encouraging researchers "to submit into higher impact journals for increased awareness of both their study and our services offered". The ethics of paying people to cite Cyagen products in research papers aside, do you not feel it to be a somewhat retrograde step to encourage researchers to chase after Impact Factors at a time when many are calling for the downgrading or extinction of the Impact Factor? For instance, over 12,000 researchers and nearly 600 organisations have signed the [San Francisco Declaration on Research](#)*

**Assessment** recommending that the research community should not “use journal-based metrics, such as Journal Impact Factors, as a surrogate measure of the quality of individual research articles, to assess an individual scientist’s contributions, or in hiring, promotion, or funding decisions.”

AJ: The encouragement of researchers to seek higher impact factor journals is based on the existing academic thought that impact factor still is a somewhat relevant metric for assessing the importance of a given journal or article, simply because it is based on the number of times a paper/journal is cited by other publications.

This being said, impact factor is just that: a metric. The number of times a paper has been cited does not necessarily reflect the quality or integrity of a publication or journal, as many researchers are aware of pioneering and ground-breaking studies which were looked over at the time of publication but years later came into popularity and prevalence.

As many researchers still actively look to publish in large, popular journals simply due to their exposure and subsequent citations by other researchers in order for their own studies to gain exposure and relevance, we felt that offering store credits to researchers for something they already were doing or attempting to do was a sort of easy and simple method for researchers to obtain discounts on future orders as opposed to discounts requiring minimum purchases, quantities, etc.

*RP: The point critics of the IF make I think is that while it may say something about some of the papers that a journal has published over a specific time period, it says very little (or nothing) about an individual paper published in that journal. Is it not the case, for instance, that a paper published in a high IF journal may receive no more – and possibly fewer – citations than if it were published in a small specialist journal with a low or no IF? Is that not the reason why there is now a strong movement against the use of the metric: it tells you little or nothing about the quality of an individual paper? If so, is not Cyagen encouraging researchers to engage in a practice that it is now widely held to be unscientific and deceptive. Would you agree with that?*

AJ: You are correct in your statement regarding a given article within a given high (or low) impact journal. Ultimately the impact factor of the journal does not directly relate to the quality or number of citations any given article in it may have or receive. As someone who has previously published in open source journals (PLoS One) I would also add that there are a number of high quality articles and studies in smaller open source journals, and that a higher impact factor journal may have the same number of high quality studies as any other journal. The IF metric however is not deceptive or unscientific, it is simply one measurement of a journals’ relevance to the field it is a part of. It may be going too far saying it has no relevance to the quality of the paper as high impact journals tend to have a higher “level of entry” but is not a perfect metric. Similar to any survey or poll which attempts to measure a general trend, opinion, or importance, it must be taken with a grain of salt and in conjunction with other metrics for a true observation to be drawn. Our citation rewards program in its current state is our first attempt at rewarding researchers for performing an aspect of research which they normally do already as an attempt to gain repeat customers. As we receive more feedback on the program, we may update and alter the program so that the promotion details are clear and that all previous customers (who actively publish studies) receive credit towards future purchases.

*RP: Here is what I still don’t quite get: you said that researchers are “ethically required to disclose in their publication the outside reagents and services they received that contributed to their research findings, including those purchased from commercial entities.” You also said “We are not asking researchers to do something that they will otherwise not do”. Why then would you go to the effort of emailing them to say, “We are giving away \$100 or more in rewards for citing us in your publication!” And why would you say to me when I contacted Cyagen that the aim is to “increase the number of publications featuring Cyagen as a product or service provider”. I hear what you say about wanting to*

*thank them for being customers and encourage them to buy again, but would it not be better to focus on improving your products and your customer service than paying them for doing something you say they are bound to do in any case? More pertinently perhaps, is it wise to link your offer to something as controversial as the Impact Factor? As I think you acknowledged, researchers have not responded too well to the offer. Here are some of responses on Twitter: [one](#), [two](#) [three](#) and [four](#).*

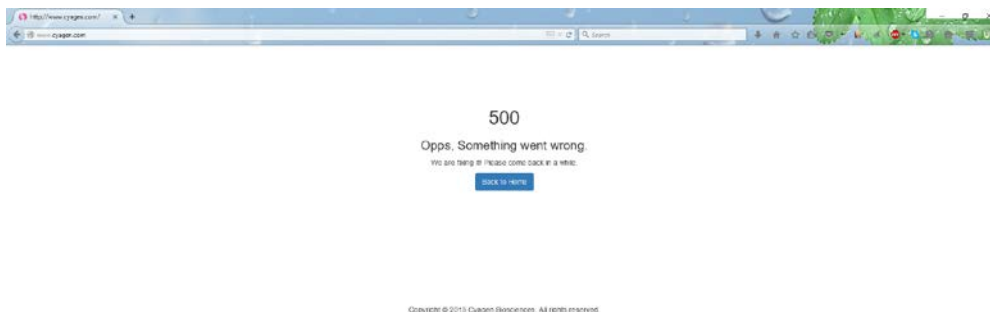
AJ: As I mentioned, we are constantly looking for ways to improve the promotion as well as new promotions. As we receive feedback from the research community, we will update promotions accordingly so that they are both beneficial and clear without cause for any sort of ethical concern. Impact factor was initially decided upon based on its historical usage by the research community. Based on feedback, we may alter the promotion to simply offer a store credit for each publication, independent of impact factor. With regards to the previous statement about our aim to “increase the number of publications:” We frequently receive inquiries from new customers requesting references or citations from researchers who have utilized our services in the past, and do our best to list all publications (found through periodic PubMed queries) citing us on our website as a reference. By offering this promotion researchers will actively reach out to us to inform us of their latest study and publication allowing us to update our citation/reference database more quickly, thereby increasing the number publications in which we are cited available for viewing and reference by new customers. Additionally, although researchers are ethically required to disclose all sources of reagents, services, and collaborators in their materials and methods, they may not always remember as so the promotion serves a dual purpose as a reminder to do so.

*RP: I received the marketing email two days ago. When I searched on your company name I found the home page but when I tried to access it I was told it was down. It is still down as I write this. Were you aware that your home page was giving an error message?*

AJ: Our staff has been unaware of any down time suffered by our website as we have not received any reports of downtime by either customers or staff members utilizing the website this week including today.

It may have been the result of an improper link or URL. The website is available at: <http://www.cyagen.com/us/en/>

*RP: Perhaps it is because I am based in Europe, but if you search “Cyagen Biosciences” on Google and click the first hit that comes up you get the following result:*



*That is how it has been for the past few days, and I am still getting the message as I write this follow-up question. I am not sure this could be described as an improper link because the URL that Google has indexed (and which is not working) is [www.cyagen.com/](http://www.cyagen.com/). This would seem to me to be likely to conspire against Cyagen attracting many new customers to its services. Would it not be better to focus on improving the way that customers find you than mass mailing them and offering to pay them for something they have to do anyway?*

AJ: This is the first report of any downtime of our website in Europe, and we thank you for providing a screenshot of the error which occurred (we will forward this to our IT team to solve the issue as soon as possible). This may be a regional DNS error as well as we have not had any reports of errors within the US, Canada, or the Asia Pacific region (see below for screenshot from US based inquiry). Mass emailing is only one small aspect of our marketing strategies. We are actively engaged in optimizing our website as the newest revision just launched this summer, including SEO and relevant keywords, in addition to various promotions. The citation rewards program is just one of several current promotions including free vector designs for nuclease based animal projects, reduced pricing for more popular mouse strains, and more. Additionally, we have regional sales representatives who visit universities and companies on site for seminar presentations as well as attend vendor shows to enhance our customer exposure, and are constantly looking for new and innovative ways to expand our visibility.

